Comfort Audio
HEAR THE FUTURE

COMFORT DIGISYSTEM

Digital communication systems for hearing implants

Compatibility guide

Why Comfort Digisystem and hearing implants?

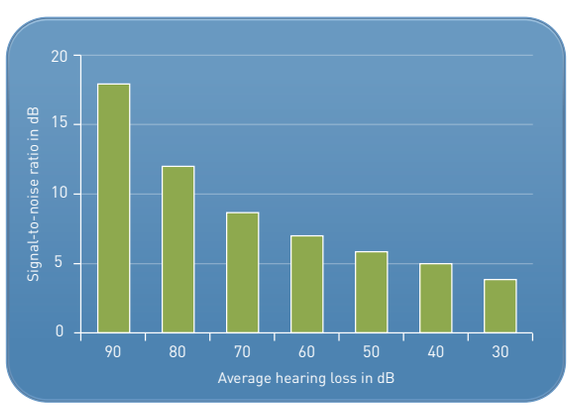
Three factors influence the signal-to-noise-ratio (SNR): background noise, distance to the speaker and reverberations. Those with normal hearing are able to understand speech, even if the noise level is around 6dB higher than the speech level. People with hearing loss, however, have lost this ability. They struggle due to deteriorated speech recognition performance in noise and a reduced dynamic range. In order to obtain acceptable speech intelligibility, people with hearing loss need an SNR that is 5-15 dB higher than people with normal hearing[1].

How can speech intelligibility and SNR be improved?

In order to improve speech intelligibility in noisy environments, a hearing implant is not enough. Several studies confirm that the use of assistive listening devices (ALDs) as a complement to hearing implants improves the speech recognition by up to 20 dB[2].

Why Comfort Digisystem?
Most ALDs which complement hearing aids or implants are based on a very simple principle: the sound is captured by a microphone that is positioned closer to the sound source than the hearing implant. The sound is then transmitted to a receiver worn by the user. The receiver transmits the sound into the hearing implant.

Most ALDs use analogue transmission. Although this technology has undoubtedly been refined since its introduction, it still suffers from basic deficiencies, such as hum, signal loss and restricted range.



Necessary improvement in signal-to-noise ratio for 50 % recognition of sentences (adults); (Killion 1997)

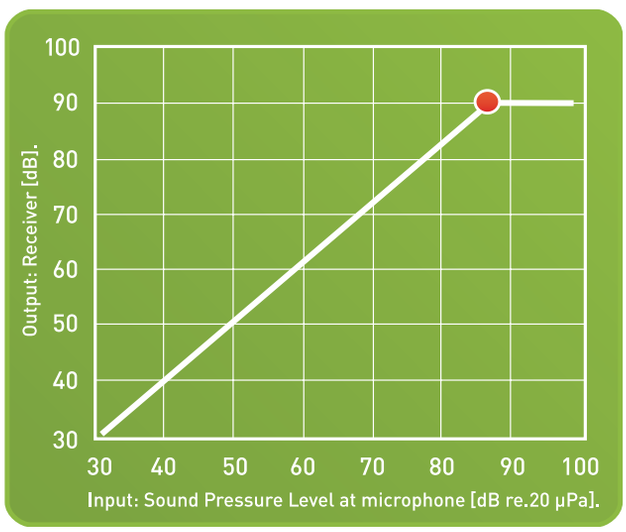
[1] Killion, M. (1997). The SIN report: Circuits have not solved the hearing-in-noise problem. The Hearing Journal, Vol. 50, No10, 28-34.
[2] Schafer, E. C., & Thibodeau, L. M. (2006). Speech recognition in noise in children with cochlear implants while listening in bilateral, bimodal, and FM-system arrangements. American Journal of Audiology, 15(2), 114–126.

Comfort Audio's technology

Comfort Audio created a completely new digital radio technology, developed especially for hearing products and aimed at improving the quality of life of those suffering from hearing loss.

The technology is called SecureStream Technology (SST) and has several advantages:

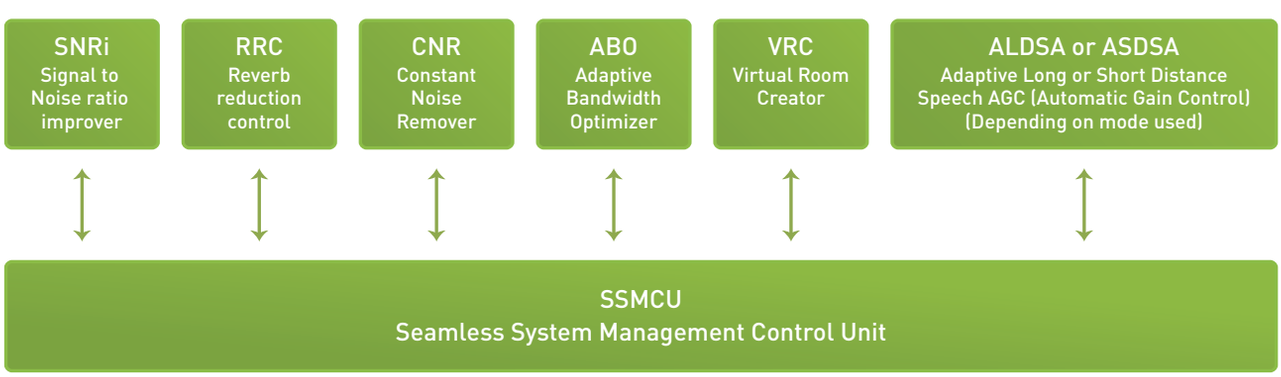
- The dynamic range spans over more than 60dB.
- Audio bandwidth of 100-7000 Hz.
- The transmitted sound is crystal clear, without transmission noise or signal loss due to FSK-modulation (Frequency shift keying).
- The sound is transmitted without time lag.
- Long operating range (between 15-30 m).
- The signal is scrambled, so it is secure from eavesdropping.



Source: Delta Teknisk-Audiologisk Laboratorium, Denmark and internal measurement method.

Digital technology also creates new possibilities for sound processing. **Perceptual Speech Enhancement (PSE)** is a unique and extremely powerful sound processing technology that enhances speech and reduces background noise. The result is an improved SNR of up to 20 dB in noisy surroundings with clear and natural speech reproduction.

The different techniques used in PSE



Comfort Digisystem uses these unique technologies to full capacity. This flexible series of microphones and receivers enables people with hearing loss to hear better even in the most demanding environments, such as classrooms, workplaces and conference rooms as well as during telephone calls.

Comfort Digisystem

Whatever the situation, Comfort Digisystem provides the best possible speech reproduction. By combining different microphones and receivers, a wide range of needs and preferences is met.

Microphones

Small yet rugged, these microphones are perfect for school, professional life or at home.

Microphone DM05

The handy clip-on microphone. Perfect for lectures.

Microphone DM10/DM20

Easy to use. Push-to-talk function. DM20 also has an integrated receiver, enabling multiple microphones to be used simultaneously.

Microphone DM30

Listen and talk with one single unit. Especially developed for school. Free Channel Request (FCR)-function: only one student at a time can talk.

Microphone DM80

Two different microphone modes (directional/ omni-directional). Can be connected to mobile phones via Bluetooth.

Conference Microphone DC10/DC20

Advanced microphones with digital sound processing (PSE). Four different microphone settings. Bluetooth for mobile phones. DC20 also has an integrated receiver; can be connected to a landline telephone via the TeleLink accessory.

Receivers

The receivers are compatible with all Comfort Digisystem microphones.

Receiver DT10

The world's first digital mini receiver. Powered by the hearing implant's battery or an external adapter.

Programmer DT05

For wireless configuration of the Receiver DT10. No computer required.

Receiver DH10

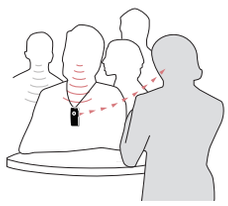
Receiver with crystal clear sound. Used with neck loop. Can be used with all hearing implants.

Some situations in which Comfort Digisystem is used

Dialogue between two people

The conversation partner wears the Comfort Digisystem microphone, which transfers the sound digitally to the Comfort Digisystem receiver worn by the person with hearing loss. The receiver transfers the sound directly into the hearing implant.

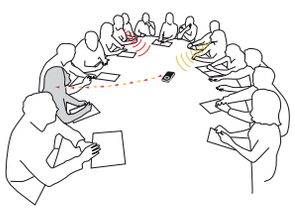
The following products can be used: Microphone DM10, Receiver DT10 or DH10.



Conference or group work

The microphone is positioned in the middle of the conference table, picking up the voices of the people sitting around it. The sound is processed and transmitted digitally to the receiver worn by the person with hearing loss. Sound is sent directly from the receiver into the hearing implant.

The following products can be used: Conference Microphone DC20, Receiver DT10 or DH10.



Landline telephone

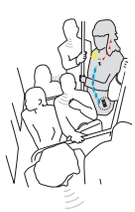
The TeleLink accessory is connected to a landline telephone and is used together with the conference microphone. The sound from the telephone is sent to the receiver worn by the person with hearing loss and from there directly into the hearing implant.

The following products can be used: Conference Microphone DC20, TeleLink, Receiver DT10 or DH10.

Mobile phone

During a telephone call, the sound is sent via Bluetooth from the mobile phone to the microphone and from there to the receiver worn by the person with hearing loss. The receiver transmits the sound directly into the hearing implant.

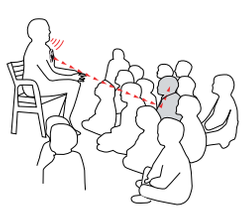
The following products can be used: Microphone DM80, Receiver DT10 or DH10.



Pupil with teacher

The teacher's microphone picks up his/her voice and transmits it to the receiver worn by the pupil with hearing loss. Natural sound, without background noise, is sent directly into the hearing implant.

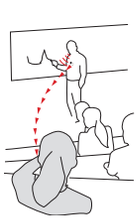
The following products can be used: Microphone DM10, Receiver DT10 or DH10.



Lecture

The lecturer wears the microphone to pick up his/her voice. The sound is processed and sent digitally to the receiver worn by the person with hearing loss and directly into the hearing implant.

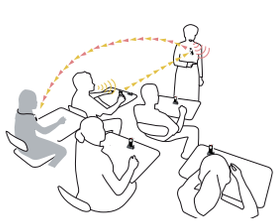
The following products can be used: Microphone DM10, Receiver DT10 or DH10.



Special school

In a special school for children with hearing loss, all pupils and even some teachers suffer from hearing loss. The Microphone DM30 can be used as a push-to-talk microphone, teacher's microphone and receiver. Pupils can understand what both the teacher and classmates are saying. At the same time, they can participate actively in any classroom conversation.

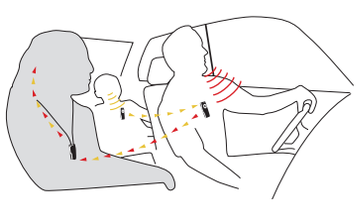
The following product can be used: Microphone DM30



In the car

In a car it is usually rather noisy. Here, several microphones are used, depending on how many people are sitting in the car. The sound is transmitted to the receiver worn by the person with hearing loss and from there directly into the hearing implant.

The following products can be used: Microphone DM05, Microphone DM20, Receiver DT10 or DH10.



Compatibility Guide

Comfort Digisystem Receivers DH10 and DT10 and necessary accessories

		Receiver DH10	Audio Cable	External Telecoil CI	External Telecoil Baha
Advanced Bionics, CIs	Auria	■		■	
	Harmony	■			
Cochlear, CIs	Nucleus® CP810 Ver. A	■*	■		
	Nucleus® CP810 Ver. B	■*	■		
	Nucleus® CP810 Ver. C	■			
	Nucleus® Freedom Body Worn	■			
	Nucleus® Freedom BTE	■			
	ESPrit 3G	■			
	ESPrit	■	■	■	
	Spectra	■	■	■	
	SPrint	■	■	■	
Cochlears BAHA	Baha® BP110	■			■
	Baha® BP100	■			■
	Baha® Compact	■			■
	Baha® Divino	■			■
	Baha® Intenso	■			■
MED-EL, CI	OPUS1 & Tempo+	■	■		
	OPUS2	■			
	DUET2	■			
	DUET	■	■		
Oticon Medical, BAHA	Ponto	■			■

* The communication between the Receiver DH10 and the Speech Processor can be performed either through the built-in T-coil or via an external audio cable.

Receiver DT10	Amigo FM-CI Adaptor	Microlink CI S	iConnect Adaptor	Euro Access. Adaptor	FM Battery Pack Cover	Angled Battery Pack
■			■			
■			■			
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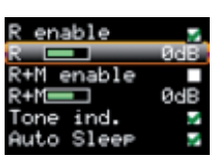
How to fit Receiver DT10 to Advanced Bionics Auria/Harmony

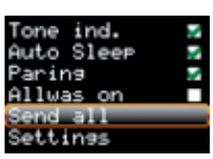
Required parts
1. The Receiver DT10
2. The Auria/Harmony sound processor
3. iConnect Adaptor
4. A10 Zinc Air (Note: Only A10 batteries from ZeniPower® are certified for use with iConnect Adaptor).
5. The Programmer DT05

Before fitting the Receiver DT10 to the sound processor
Please ensure that each step below is carefully followed before making any attempt to connect the Receiver DT10 to the Sound processor.

1. Preparing the Comfort Digisystem
- Use the Programmer DT05 and perform an HA scan of the sound processor as described in the section "Programmer DT05" in this guide.
- Attach the Receiver DT10 into the Programmer DT05.
- Choose an appropriate radio transmission channel in accordance to the frequency scan you made in the previous step and Pair the Receiver DT10 with the intended Comfort Digisystem microphone.
- Use the Programmer DT05 and configure the following settings in the Receiver DT10 through the next step while it is attached into the Programmer DT05

Preparing the Receiver DT10
a. Set a check mark for the "R enable"
b. Set the output level for R to 0 dB
c. Set the check mark for the "Tone indicator"
d. Set a check mark for the "Auto Sleep"
e. Set a check mark for "Pairing"
f. Uncheck "Always On"
g. Set the Receiver DT10 to the pairing mode
h. Send all settings to the Receiver DT10 by selecting "Send all" → Continue
i. Ensure that the Comfort Digisystem is functioning properly by listening to the transmitted signal through a headphone connected to the Programmer DT05. See the picture to the right.
j. Turn off the Comfort Digisystem





2. Preparing the sound processor
a. Ensure that the Sound processor is programmed for the Audio Mixing ratio 50/50
b. Use the programme switch of the Sound processor and select the intended programme for Audio Mixing ratio 50/50.
c. Take note of the position of the volume control and turn it counter-clockwise to the end position in order to reduce the volume to minimum. (Picture)
d. Turn off the Sound processor.

3. Connecting the Receiver DT10 to the Sound processor

a. Insert the Receiver DT10 into the three pin socket on the iConnect Adaptor.
b. While keeping the sound processor and the Comfort Digisystem turned off, attach the iConnect Adaptor to the Sound processor, as shown in the picture to the right.
c. Turn on the Comfort Digisystem Microphone and the Sound processor in that order.
d. Gently turn the volume control back to the same position noted in Step 2a. Note. There is no need to turn on the Receiver DT10. It will automatically turn on after a few seconds and a beep may be heard by the user.
e. Perform a functional listening evaluation as follows:
- Turn off the Receiver DT10. Conduct a listening test in quiet, at a Speaker-to-Listener distance of 1 metre.
- Turn on the Receiver DT10. Repeat the same listening test in quiet with Sound processor set to the Aux Only Option and at a Speaker-to-Listener distance of several metres this time.
- The user's speech recognition performance should be almost the same in both cases.
- If not, use the Programmer DT05 to optimize the output level of the Receiver DT10 until almost the same performance is obtained.
- If required, a functional listening check can be conducted in noise with the sound processor set to the Audio Mixing ratio 30/70, to obtain an acceptable performance in noise.

How to fit Receiver DH10 to Advanced Bionics Auria

Required parts
1. The Receiver DH10
2. The Auria sound processor
3. Direct Connect Earhook
4. Auria External T-Coil

Before fitting the Receiver DH10 to the Sound Processor
Please ensure that each step below is carefully followed before making any attempt to fit the Receiver DH10 to the CI-processor

1. Preparing the Comfort Digisystem
a. Choose a free radio transmission channel.
b. Pair the Receiver DH10 with the intended Comfort Digisystem.
c. Connect a headphone to the Receiver DH10 and ensure that the Comfort Digisystem is functioning appropriately.
d. Turn of the Receiver DH10 and hang its neck loop around the neck of the user

2. Preparing the Sound processor
a. Ensure that the Sound processor is programmed for the Audio Mixing ratio 50/50
b. Use the programme switch of the Sound processor and select the intended programme for Audio Mixing ratio 50/50.
c. Take note of the position of the volume control and turn it counter-clockwise to the end position in order to reduce the volume to minimum.
d. Turn off the Sound processor.

3. Fitting the Receiver DH10 to the Sound processor
a. Attach the External T-Coil to the Direct Connect Earhook.
b. Connect the Direct Connect Earhook to the Sound processor.
c. Turn on the Comfort Digisystem Microphone, The Receiver DH10 and the Sound processor in that order.
d. Gently turn the volume control back to the noted position in Step 2c.
f. Perform a functional listening evaluation as follows:
- Turn off the Receiver DH10. Conduct a listening test in quiet, at a Speaker-to-Listener distance of 1 metre.
- Turn on the Receiver DH10. Repeat the same listening test in quiet with Sound processor set to the Aux Only Option and at a Speaker-to-Listener distance of several metres this time.
- The user's speech recognition performance should be almost the same in the both cases.
- If not, use the Volume buttons on the DH10 to optimize the output level of the Receiver DH10 until almost the same performance is obtained.
- If required, a functional listening check can be conducted in noise with the sound processor set to the Audio Mixing ratio 30/70, to obtain an acceptable performance in noise.

How to fit Receiver DH10 to Advanced Bionics Harmony

Required parts
1. The Receiver DH10
2. The Harmony Sound processor

Before fitting the Receiver DT10 to the sound processor
Please ensure that each step below is carefully followed before making any attempt to fit the Receiver DH10 to the sound processor.

1. Preparing the Comfort Digisystem
a. Choose a free radio transmission channel.
b. Pair the Receiver DH10 with the intended Comfort Digisystem.
c. Connect a headphone to the Receiver DH10 and ensure that the Comfort Digisystem is functioning appropriately.
d. Turn of the Receiver DH10 and hang its neck loop around the neck of the user.

2. Preparing the Sound processor
a. Ensure that the T-Coil Feature is enabled in the sound processor.
b. Take note of the position of the volume control and turn it counter-clockwise to the end position in order to reduce the volume to minimum.
c. Turn off the Sound processor.

3. Fitting the Receiver DH10 to the Sound processor
a. Turn on the Comfort Digisystem Microphone, The Receiver DH10 and the Sound processor in that order.
b. Gently turn the volume control back to the noted position in Step 2b.
c. Perform a functional listening evaluation as follows:
- Turn off the Receiver DH10. Conduct a listening test in quiet, at a Speaker-to-Listener distance of 1 metre.
- Turn on the Receiver DH10. Repeat the same listening test in quiet with Sound processor set to the programme intended for using built in T-coil and at a Speaker-to-Listener distance of several metres this time.
- The user's speech recognition performance should be almost the same in the both cases.
- If not, use the Volume buttons on the DH10 to optimize the output level of the Receiver DH10 until almost the same performance is obtained.
- If required, a functional listening check can be conducted in noise with the sound processor set to the Audio Mixing ratio 30/70, to obtain an acceptable performance in noise.

How to fit Receiver DT10 to Cochlear Nucleus CP800 Series

Cochlear Nucleus® CP810 is built in three different versions: A, B and C. Only Cochlear Nucleus® CP810 Version C supports the use of the Receiver DT10. The version of the CP810 is identified by the last letter in the serial number on the sound processor. The serial number is located in the curved inside edge of the CP810. See the pictures on the right hand side. Cochlear Nucleus® CP810 versions A and B only support the Receiver DH10.

Required Parts

1. The Receiver DT10
2. Euro Accessory Adaptor
3. The Programmer DT05
4. Monitor Headphones for Cochlear Nucleus®CP800 series

Before fitting the Receiver DT10 to Cochlear Nucleus® 810 Ver. C

Please ensure that each step below is carefully followed before making any attempt to connect the Receiver DT10 to the Sound processor.

Recommended channel list

To avoid radio interference, the following radio transmission channels are recommended for use with the Receiver DT10 and CP810 ver. C in Europe. Open channels: 01, 02 and 03.
B Band: B1, B3, B5, B7 – B11, B17 – B23.
F Band: F2 – F5, F7 – F9, F13 – F15.

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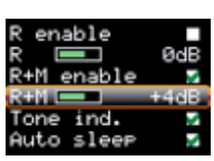
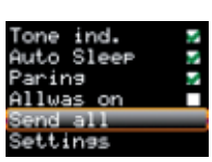
1. Preparing the Receiver DT10

Please use the Programmer DT05 in order to change the settings of the Receiver DT10 in this step.

a. Attach the Receiver DT10 into the Programmer DT05
b. Choose an appropriate radio transmission channel in accordance to the "Recommended Channel List" above and pair the Receiver DT10 with the intended Comfort Digisystem Transmitter.
c. Set a check mark for the "R+M enable"
d. Set the output level for R+M to +4 dB
e. Set the check mark for the "Tone indicator"
f. Set a check mark for the "Auto Sleep"
g. Set a check mark for "Pairing"
h. Uncheck "Always On"
i. Set the Receiver DT10 to the pairing mode
j. Send all settings to the Receiver DT10 by selecting "Send all" → "Continue"
k. Ensure that the Comfort Digisystem is functioning properly by listening with headphones through the Programmer DT05 while someone speaks into the Comfort Digisystem Microphone. See the picture to the right.





2. Preparing the Sound processor

Ensure that the processor is programmed with the following settings for the intended programme used with the Receiver DT10:
a. Mixing Ratio = 1:1
b. Auto Telecoil = Off
c. SmartSound Environment = ASC+ADRO (Use default Everyday Environment setting the default sensitivity setting of 12).

3. Connecting the Receiver DT10 to Cochlear Nucleus® 810 Ver. C

a. Insert the Receiver DT10 into the Euro Accessory Adaptor. Insert the Euro Accessory Adaptor into the sound processor´s accessory socket while the sound processor is still switched on.
b. CP810 will automatically detect the Receiver DT10 and the Receiver DT10 switches on after a few seconds.
c. Perform a functional listening evaluation as follows:

- Turn off the Receiver DT10. Conduct a listening test in quiet, at a Speaker-to-Listener distance of 1 metre.
- Turn on the Receiver DT10. Using the Remote Assistant CR110 change the Mixing Ratio to 6:0. Repeat the same listening test in quiet, at a Speaker-to-Listener distance of several metres this time.
- The user's speech recognition performance should be almost the same in the both cases.
- If not, use the Programmer DT05 to optimize the output level of the Receiver DT10 until almost the same performance is obtained.
- Note: A mixing ratio of 1:1 is recommended for a good compromise between the DT10 input and the sound processor microphone input in quiet. A mixing ratio of 2:1 or 3:1 can give a good speech recognition performance in noise.

How to fit Receiver DH10 to Cochlear Nucleus® CP810 ver. A, B, C through telecoil

Required parts
1. The Receiver DH10
2. The Cochlear Nucleus® CP810

Before fitting the Receiver DT10 to Cochlear Nucleus® CP810
Please ensure that each step below is carefully followed before making any attempt to fit the receiver DH10 to the CI-processor.

1. Preparing the Comfort Digiystem
a. Choose a free radio transmission channel.
b. Pair the Receiver DH10 with the intended Comfort Digisystem.
c. Ensure that the Comfort Digisystem is functioning properly by listening with headphones through the Receiver DH10 while someone speaks into the Comfort Digisystem Microphone.
d. Hang the neck loop of the Receiver DH10 around the neck of the user.

2. Preparing the Cochlear Nucleus® CP810
Ensure that the processor is programmed with the following settings:
a. Telecoil = On
b. Auto Telecoil = Off
c. Mixing ratio = 1:1
d. SmartSound Environment = ASC+ADRO (Use default Everyday Environment setting the default sensitivity setting of 12).

3. Fitting the Receiver DH10 to Cochlear Nucleus® CP810
a. Select the Telecoil programme manually on the sound processor and confirm that the user can hear the transmitted signal from the Comfort Digisytem Microphone.
b. Perform a functional listening evaluation as follows:
- Turn off the Receiver DH10. Conduct a listening test in quiet, at a Speaker-to-Listener distance of 1 metre.
- Turn on the Receiver DH10. Using the Remote Assistant CR110 change the Mixing Ratio to 6:0. Repeat the same listening test in quiet, at a Speaker-to-Listener distance of several metres this time. The user´s speech recognition performance should be almost the same in the both cases.
- If not, use the Volume buttons on the DH10 to optimize the output level of the Receiver DH10 until almost the same performance is obtained.
- Note: A mixing ratio of 1:1 is recommended for a good compromise between the DT10 input and the sound processor microphone input in quiet. A mixing ratio of 2:1 or 3:1 can give a good speech recognition performance in noise.

How to fit Receiver DH10 to Cochlear Nucleus® CP810 ver. A, B, C through the Accessory Socket

Required parts
1. The Receiver DH10
2. The Cochlear Nucleus® CP810
3. Cochlear Personal Audio Cable

Before fitting the Receiver DT10 to Cochlear Nucleus® CP810
Please ensure that each step below is carefully followed before making any attempt to fit the receiver DH10 to the sound processor.

1. Preparing the Comfort Digiystem
a. Choose a free radio transmission channel.
b. Pair the Receiver DH10 with the intended Comfort Digisystem.
c. Ensure that the Comfort Digisystem is functioning properly by listening with headphones through the Receiver DH10 while someone speaks into the Comfort Digisystem Microphone.
d. While being used, the Receiver DH10 can be kept in one of the user's pockets.

2. Preparing the Sound processor
Ensure that the sound processor is programmed with the following settings:
a. Auto Telecoil = Off
b. Mixing ratio = 1:1
c. SmartSound Environment = ASC+ADRO (Use default Everyday Environment setting the default sensitivity setting of 12).

3. Fitting the Receiver DH10 to the Sound Processor
a. Insert the processor end of the Personal Audio Cable into the accessory socket of the sound processor and plug the 3.5 mm end into the DH10 Headphones socket . The sound processor will automatically detect the Receiver DH10.

b. Confirm that the user can hear the transmitted signal from the Comfort Digisytem Microphone.
c. Perform a functional listening evaluation as follows:
- Turn off the Receiver DH10. Conduct a listening test in quiet, at a Speaker-to-Listener distance of 1 metre.
- Turn on the Receiver DH10. Using the Remote Assistant CR110 change the Mixing Ratio to 6:0. Repeat the same listening test in quiet, at a Speaker-to-Listener distance of several metres this time. The user's speech recognition performance should be almost the same in the both cases.
- If not, use the Volume buttons on the DH10 to optimize the output level of the Receiver DH10 until almost the same performance is obtained.
- Note: A mixing ratio of 1:1 is recommended for a good compromise between the DT10 input and the sound processor microphone input in quiet. A mixing ratio of 2:1 or 3:1 can give a good speech recognition performance in noise.

How to fit Receiver DT10 to MED-EL OPUS 2 sound processor

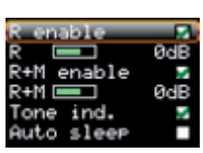
Required parts
1. The Receiver DT10
2. The OPUS 2 sound processor
3. OPUS2 FM battery pack cover
4. FineTuner™ Remote Control
5. The Programmer DT05

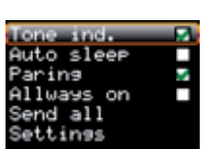
The Receiver DT10 can be connected directly to the OPUS 2 FM battery pack cover as shown in the picture on the right.

Before fitting the Receiver DT10 to MED-EL OPUS 2
Please ensure that each step below is carefully followed before making any attempt to connect the Receiver DT10 to the Sound processor. Note: No HA Scan of the OPUS2 is required. All radio transmission channels within 850,000 – 872,000 MHz may be used when fitting the Receiver DT10 to the OPUS 2.

1. Preparing the Comfort Digisystem
Please use the Programmer DT05 in order to change the settings of the Receiver DT10 in this step.

a. Attach the Receiver DT10 into the Programmer DT05.
b. Choose an appropriate radio transmission channel and pair the Receiver DT10 with the intended Comfort Digisystem Microphone.
c. Set a check mark for the "R enable"
d. Set the output level for R to 0 dB
e. Set a check mark for the "R+M enable"
f. Set the output level for R+M to 0 dB
g. Set a check mark for the "Tone indicator"
h. Uncheck "Auto Sleep". Note: Please recommend that the user turns off the Receiver DT10 when the transmitter is switched off in order to reduce battery consumption.
i. Set a check mark for "Pairing"
j. Uncheck "Always On"
k. Set the Receiver DT10 to the pairing mode
l. Send all settings to the Receiver DT10 by selecting "Send all" → "Continue"
m. Ensure that the Comfort Digisystem is functioning properly by listening with headphones through the Programmer DT05 while someone speaks into the Comfort Digisystem Microphone.See the picture to the right.





2. Preparing the Sound processor
a. Turn off the Speech Processor.
b. Replace the standard battery cover with the OPUS2 FM battery pack cover.
c. Insert the Receiver DT10 into the bottom of the FM battery pack cover.

3. Connecting the Receiver DT10 to MED-El OPUS 2
a. Turn on the sound processor
b. The sound processor will automatically detect the Receiver DT10 and it turns on after a few seconds.
c. Perform a functional listening evaluation as follows:
- Turn off the Receiver DT10. Conduct a listening test in quiet, at a Speaker-to-Listener distance of 1 metre.
- Turn on the Receiver DT10. It automatically turns on in the R-only mode. Repeat the same listening test in quiet, at a Speaker-to-Listener distance of several metres this time. The user's speech recognition performance should be almost the same in both cases.
- If not, use the Programmer DT05 to optimize the output level of the Receiver DT10 until almost the same performance is obtained.
- Note: The R+M mode is recommended for use in quiet. The R mode provides the user with a good speech recognition performance in noise.

How to fit Receiver DH10 to MED-EL OPUS 2

Required parts
1. The Receiver DH10
2. The MED-EL OPUS 2
3. FineTuner™ Remote Control

1. Preparing the Comfort Digiystem

a. Choose a free radio transmission channel.
b. Pair the Receiver DH10 with the intended Comfort Digisystem Microphone.
c. Ensure that the Comfort Digisystem is functioning properly by listening with headphones through the Receiver DH10 while someone speaks into the Comfort Digisystem Microphone.
d. Turn off the Receiver DH10 and hang its neck loop around the neck of the user.

2. Preparing the MED-EL OPUS 2

Select Telecoil using the FineTuner™ Remote Control.

3. Fitting the Receiver DH10 to the MED-EL OPUS2

a. Turn on the Comfort Digisystem and confirm that the user can hear the transmitted signal from the Comfort Digisytem Microphone.
b. Perform a functional listening evaluation as follows:

- Select the M-mode on the sound processor using the FineTuner™ Remote Control and conduct a listening test in quiet, at a Speaker-to-Listener distance of 1 metre.

- Select the T-mode on the sound processor using the FineTuner™ Remote Control and conduct a listening test in quiet, at a Speaker-to-Listener distance of several metres this time. The user´s speech recognition performance should be almost the same in both cases.

- If not, use the Volume buttons on the DH10 to optimize the output level of the Receiver DH10 until almost the same performance is obtained.

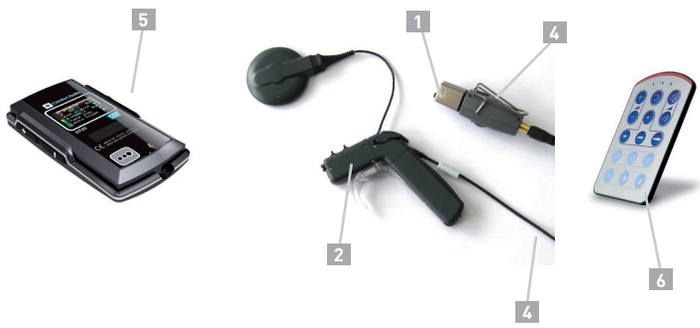
- Note: MT-mode provides a good compromise between the DH10 input and the sound processor microphone input in quiet. T-mode is recommended to be used in noise.

How to fit Receiver DT10 to MED-EL DUETT 1/ DUETT2/ OPUS1/ TEMPO+

Required parts

1. The Receiver DT10
2. The MED-EL Sound Processor with Angled Battery Pack
3. Oticon Amigo FM-CI adaptor
4. Adaptor Cord CI-40
5. The FineTuner™ Remote Control
6. The Programmer DT05

The Receiver DT10 is connected to these sound processors through an Oticon Amigo FM-CI Adaptor. See the picture on the right.



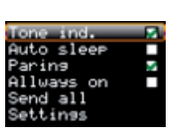
Before fitting the Receiver DT10 to MED-EL DUETT 1/ DUETT2/OPUS!/TEMPO*

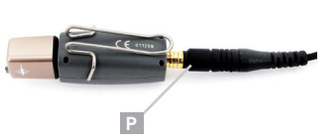
Please ensure that each step below is carefully followed before making any attempt to connect the Receiver DT10 to the Sound processors. Note: No HA Scanning of these processors is required. All radio transmission channels within 850,000 – 872,000 MHz can be used when fitting the Receiver DT10 to these sound processors. For Europe.

1. Preparing the Comfort Digisystem and the Oticon Amigo FM-CI adaptor

Please use the Programmer DT05 in order to change the settings of the Receiver DT10 in this step.

a. Attach the Receiver DT10 into the Programmer DT05.
b. Choose an appropriate radio transmission channel and pair the Receiver DT10 with the intended Comfort Digisystem Microphone.
c. Set a check mark for the "R enable"
d. Set the output level for R to 0 dB
e. Set a check mark for the "R+M enable"
f. Set the output level for R+M to 0 dB
g. Set a check mark for the "Tone indicator"
h. Uncheck "Auto Sleep". Note: Please recommend the user to turn the Receiver DT10 off when the Comfort Digisystem is switched off in order to reduce the battery consumption.
i. Set a check mark for "Pairing"
j. Uncheck "Always On"
k. Set the Receiver DT10 to the pairing mode
l. Send all settings to the receiver DT10 by selecting
"Send all" → "Continue"
m. Ensure that the Comfort Digisystem is functioning properly by listening with headphones through the Programmer DT05 while someone speaks into the Comfort Digisystem Microphone. See the picture to the right.





n. Detach the Receiver DT10 from the Programmer DT05 and connect it into the Oticon Amigo FM-CI adaptor.
o. Open the battery compartment of the Oticon Amigo FM-CI adaptor. Insert a P13 Zinc Air battery in the battery compartment and close it.
p. Connect the Adaptor cord CI-40 to the Oticon Amigo FM-CI adaptor.
q. Turn the Gain Control of the Oticon Amigo FM-CI adaptor to the "1" position.

2. Preparing the Sound Processor

a. Turn off the Sound Processor
b. Open the cover of the Angled Battery Pack by pulling it straight back and lifting upwards
c. Carefully insert the Adaptor cord CI-40 into the CS 44 socket on the sound processor and close the cover
d. Take note of the position of the sound processor sensitivity control and turn it to the halfway point. The red dot on the control dial should be at approximately 2 or 3 o´clock

3. Fitting the Receiver DT10 to the Sound processor and performing functional listening evaluation

a. Turn on the sound processor.
b. Gently turn the sound processor sensitivity control back to the same position noted in step 2d.
c. Gradually increase the Gain Control of the Oticon Amigo FM-CI adaptor until a comfortable volume level is achieved.
d. Perform a functional listening evaluation as follows:

- Turn off the Receiver DT10. Conduct a listening test in quiet, at a Speaker-to-Listener distance of 1 metre.
- Turn on the Receiver DT10. It automatically turns on in the R-only mode. Repeat the same listening test in quiet, at a Speaker-to-Listener distance of several metres this time. The user´s speech recognition performance should be almost the same in both cases.
- If not, use either the Programmer DT05 or the Gain Control of the Oticon Amigo FM-CI adaptor to optimize the output level of the FM-CI adaptor until almost the same performance is obtained.
- Note: The R+M mode is recommended for use in quiet. The R mode provides the user with a good speech recognition performance in noise.

How to fit Receiver DH10 to MED-EL DUET 2

Required parts
- The Receiver DH10
- The MED-EL DUET 2
- FineTuner™ Remote Control

1. Preparing the Comfort Digisystem

a. Choose an appropriate radio transmission channel.
b. Pair the Receiver DH10 with the intended Comfort Digisystem Microphone.
c. Ensure that the Comfort Digisystem is functioning properly by listening with headphones through the Receiver DH10 while someone speaks into the Comfort Digisystem Microphone.
d. Turn off the Receiver DH10 and hang its neck loop around the neck of the user.

2. Preparing the MED-EL DUET 2

Select Telecoil using the FineTuner™ Remote Control.

3. Fitting the Receiver DH10 to the MED-EL DUET2 and performing functional listening evaluation

a. Turn on the Receiver DH10 and confirm that the user can hear the transmitted signal from the Comfort Digisytem Microphone.
b. Perform a functional listening evaluation as follows:

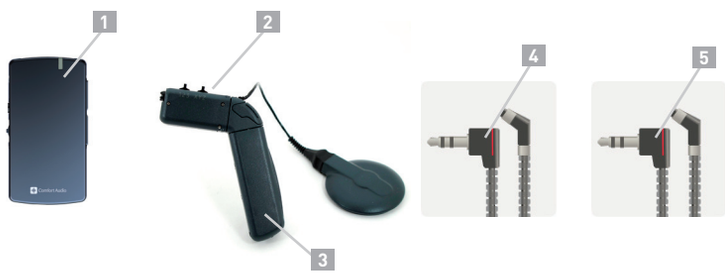
- Select the M-mode on the sound processor using the FineTuner™ Remote Control and conduct a listening test in quiet, at a Speaker-to-Listener distance of 1 metre.

- Select the T-mode on the sound processor using the FineTuner™ Remote Control and conduct a listening test in quiet, at a Speaker-to-Listener distance of several metres this time. The user´s speech recognition performance should be almost the same in both cases.
- If not, use the Volume buttons on the DH10 to optimize the output level of the Receiver DH10 until almost the same performance is obtained.

- Note: MT-mode provides a good compromise between the DH10 input and the sound processor microphone input in quiet. T-mode is recommended in noise.

How to fit Receiver DH10 to MED-EL TEMPO+ and OPUS 1

Required parts
1. The Receiver DH10
2. MED-EL TEMPO+ / OPUS 1
3. Angled Battery Pack
4. For FM use T+ AudioExt (Red)
5. For FM + M use T+ AudioMix (Yellow)



1. Preparing the Comfort Digisystem

a. Choose a free radio transmission channel.
b. Pair the Receiver DH10 with the intended Comfort Digisystem Microphone.
c. Ensure that the Comfort Digisystem is functioning properly by listening with headphones through the Receiver DH10 while someone speaks into the Comfort Digisystem Microphone.
d. Decrease the volume on the Receiver DH10 to the minimum level and turn it off. Insert the 3.5 mm end of the intended audio cable into the Receiver DH10 headphones socket. The audio cable type can be selected depending on the type of the listening environment. The Non-mixing cable (T+ AudioExt (Red)) generally is used in noise and the Mixing cable (T+ AudioMix (Yellow)) is used in quiet.

2. Preparing the Sound processor

a. Turn off the Sound Processor
b. Open the cover of the Angled Battery Pack by pulling it straight back and lifting upwards
c. Carefully insert the audio cable into the CS 44 socket on the sound processor and close the cover.
d. Take note of the position of the sound processor sensitivity control and turn it to the halfway point. The red dot on the control dial should be at approximately 2 or 3 o´clock.

Fitting the Receiver DH10 to the Sound Processor and performing functional listening evaluation when using the T+ AudioExt cable (Red)

a. Turn on the Sound Processor and gently turn the sound processor sensitivity control back to the same position noted in step 2d.
b. Gradually increase the volume of the Receiver DH10 until a comfortable volume is achieved.
c. Conduct a functional listening test in quiet, at a Speaker-to-Listener distance of several metres. The user should show a good speech recognition performance in this condition. If not, use the volume buttons on the Receiver DH10 to optimize the output level of the Receiver DH10 until almost the same performance is obtained.

Fitting the Receiver DH10 to the Sound Processor and performing functional listening evaluation when using the T+ AudioMix cable (Yellow)

a. Turn on the Sound Processor and gently turn the sound processor sensitivity control back to the same position noted in step 2d.
b. Make sure that the output level of the Receiver DH10 is set to the minimum and conduct a listening test in quiet, at a Speaker-to-Listener distance of 1 metre.
c. Gradually increase the volume of the Receiver DT10 until a comfortable volume level is achieved. Conduct a listening test in quiet, at a Speaker-to-Listener of several metres this time.
d. The speech recognition performance in these two conditions should be almost the same.
e. If not, use the volume buttons on the Receiver DH10 to optimize the output level of the Receiver DH10 until almost the same performance is obtained.

How to fit Receiver DH10 to MED-EL DUET

Required parts
1. The Receiver DH10
2. MED-EL DUET
3. Audio mixing cable T+ AudioMix (Yellow)

1. Preparing the Comfort Digisystem

a. Choose an appropriate radio transmission channel.
b. Pair the Receiver DH10 with the intended Comfort Digisystem Microphone.
c. Ensure that the Comfort Digisystem is functioning properly by listening with headphones through the Receiver DH10 while someone speaks into the Comfort Digisystem Microphone.
d. Decrease the volume on the Receiver DH10 to the minimum level and turn it off. Insert the 3.5 mm end of the audio Mixing cable (T+ AudioMix (Yellow)) into the Receiver DH10 headphones socket

2. Preparing the Sound processor

a. Turn off the Sound Processor (picture)
b. Open the battery cover by pulling it straight back and lifting upwards (picture)
c. Carefully insert the audio cable into the CS 44 socket on the sound processor and close the cover.
d. Take note of the position of the sound processor sensitivity control and turn it to the halfway point. The red dot on the control dial should be at approximately 2 or 3 o´clock (picture)

3. Fitting the Receiver DH10 to the Sound Processor and performing functional listening evaluation

a. Turn on the Sound Processor and gently turn the sound processor sensitivity control back to the same position noted in step 2d.
b. Ensure that the output level of the Receiver DH10 is set to the minimum and conduct a listening test in quiet, at a Speaker-to-Listener distance of 1 metre.
c. Gradually increase the volume of the Receiver DT10 until a comfortable volume level is achieved. Conduct a listening test in quiet, at a Speaker-to-Listener of several metres this time.
d. The speech recognition performance in these two conditions should be almost the same.
e. If not, use the volume buttons on the Receiver DH10 to optimize the output level of the Receiver DH10 until almost the same performance is obtained.

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Hearing loss should not stop anyone from sharing thoughts and ideas with others.

Since 1994, Swedish company Comfort Audio has developed and manufactured products for people with hearing loss. With leading technology and innovative solutions, we have a mission to make people with hearing loss feel comfortable interacting in all situations through all stages of life.

We are dedicated, curious, highly technically motivated and are driven by passion and joy. This has made us one of the leading companies in hearing product technology. Our products have been developed for working life, school, public places and private life. The needs of the individual are always in focus and we have a genuine desire to improve the quality of life for people with a hearing loss.

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